

GEORGE W. YORK, Editor.

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## CONTRIBUTED ARTICLES

### Rearing Queens in Full Colonies—Starting Cell-Cups by Natural Methods.

BY HENRY ALLEY.

FOR a good many years I have had no trouble in getting all the cell-cups made that I needed, and in a way most natural for bees to construct them. This is the way I do it:

We will suppose that there are eggs or larvæ properly matured, from which bees will start queen-cells. The right age of eggs for this purpose is about 84 hours, reckoning from the time the eggs were deposited. Now, there is but one way to compel bees to start cell-cups, and that is by making them queenless. My way of preparing bees for this work is this:

I have a box, a duplicate of the regular brood-nest a full colony occupies, to the bottom of which is nailed wire-cloth. Over this wire, at the ends, are nailed  $\frac{7}{8}$ -inch cleats to keep the bottom of the box above anything it is resting on, so that the air can be admitted freely at all times. A frame cover is made, and that also is covered with wire-cloth. When ready for the bees I take the cover of the box and go to any strong colony in the yard, remove the sections or whatever covers the frames, and place the wire cover on the hive. Then the bees are smoked at the entrance to drive in as many as possible, and also cause them to fill their sacs with honey. I also drum lightly on the hive. Now, to put the bees in such a condition that they can be brushed from the combs into a box, and not all take wing, I use a small amount of tobacco-smoke. I will say plainly that this boxing-up of bees as above cannot be done without the use of tobacco smoke. If rotten-wood smoke is

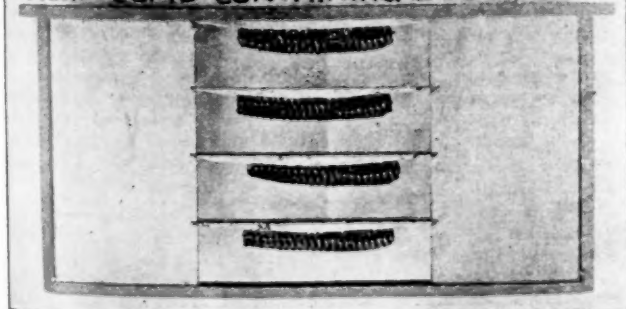


used, nearly all of the bees will take wing and be in the air quickly; but the tobacco-smoke puts them in just the right condition to be handled to your liking. In fact, they can be handled about as conveniently as so many beans. When the queen is found, the cover is placed on the box, and the bees left alone for several hours, or until they fully realize their queenless condition. Then the eggs are given them in this way:

Cut from any brood-comb, containing eggs that have just hatched, a piece about 4 inches square. Cut this piece in strips, running a knife thru alternate rows of cells. Cut off about half the depth of the cells, and insert the fire end of a common match in each alternate cell, twirling it between the thumb and finger, thus destroying the eggs. Have at hand a shallow pan containing equal parts of beeswax and resin made quite hot over a kerosene-stove, and dip in the mixture the edge of the comb in which the eggs have not been destroyed, and quickly place it on a stick, as represented in Fig. 1. The illustration shows a standard frame in which are two pieces of wood having a space of  $7\frac{1}{2}$  inches between the pieces. The strips should be cut  $7\frac{1}{4}$  inches long, and are kept in place by cutting notches in the wood  $\frac{1}{8}$ -inch deep, using 4 pieces of wood to each frame, as shown in the illustration. On each piece of wood a strip of comb is placed. Two of the frames, containing 8 pieces, are placed in a hive having no bottom or top. The hive is then filled with combs containing honey and pollen, but not a particle of unscaled brood; in fact, no brood at all should be used. Now jar the bees down to the bottom of the box by a sudden strike on the floor, and quickly place the one containing the combs over it and put on the cover. The bees will at once run up and take possession of the combs. If this is done in the morning the bees can be placed at night on the stand they previously occupied, and at once be released. I first place a bottom-board on the stand, and then raise the hive and place it thereon. By being careful, no bees are crushed. Many bees rush out and will take wing, but no harm will be done, as they soon return and enter the hive.

While the bees are confined after being given the eggs they must be supplied with water, and in a cool place, and in the course of 24 hours a cell-cup will

FIG. 1. COMB CONTAINING EGGS.



be started around each egg given them. Let the bees work on the cell-cups from 36 to 48 hours, after which they should be placed in colonies having a queen not less than one year old.

Fig. 2 represents another standard frame. One-half of this frame is filled with wood, but, unlike the one described in Fig. 1, the wood is nailed in the upper half of the frame, and not at the ends, as in No. 1, as will be seen. One side of the open space is covered with wirecloth, and two smaller frames are used in this frame, having one of their sides covered with perforated metal firmly nailed to the wood. These frames are just  $7\frac{1}{2}$  inches between the vertical pieces, and are notched at the top so the strips of wood to which the cell-cups are made are held in place. The cell-cups are removed from frame No. 1, and then placed in the smaller frames, which are then inserted in frame No. 2, with the open side toward the wirecloth; then the frame is placed in the center of a powerful colony of bees, and *always* between two frames of brood. The result is, in three days more there is as fine a lot of queen-cells as one ever saw.

Twelve days after the eggs are given the bees, the cells should be transferred to nuclei, or, what I consider much better, to a queen-nursery. I feel bound to say that, by this process, I have produced queens much superior to those reared under the swarming-impulse.

To the inexperienced this method may seem fussy. All I can say is that no one can rear queens without doing much hard, pretty fine and fussy work. There are many fine points connected with the above that one must get acquainted with by actual experience. These particular points cannot be explained in one short article. Catch on to them by experience. That is the proper way to do. The cells illustrated were begun and finished by bees. There is nothing artificial about them.—Gleanings in Bee-Culture.

Essex Co., Mass.



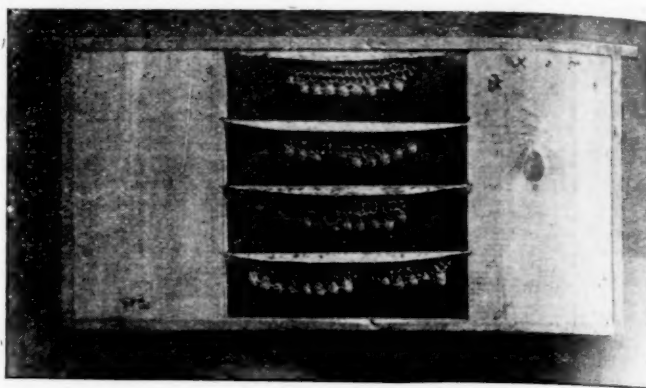
### New Swarm Deserting the Hive and Queen.

BY G. M. DOOLITTLE.

**A** CORRESPONDENT writes: "Will you please answer the following questions thru the columns of the American Bee Journal? I had a swarm come out one day. It clustered and was hived in the usual manner. In the evening the bees slowly swarmed out and went back into the old hive, leaving a small bunch of bees in the new hive. These remained six days when they, too, swarmed out. I found the queen with them. What made the most of the bees leave their queen and go back?"

**ANSWER.**—The above is one of the most perplexing things which occasionally happen in the swarming season in a large apiary. The general cause is that a few strange bees from another swarm or elsewhere go in with the swarm when they are on the wing or when running into the hive, and for this reason the queen is balled for safe keeping, or for some other purpose—just what, I never could determine. Others have told me that is was to prevent the few bees which came in with the swarm, from harming their mother queen, but for some reason there is a lingering doubt about this in my mind. But as I am not satisfied as to the reason, I allow the reason of others to stand till I can prove them wrong.

Where the queen of the newly-hived swarm is thus balled, the bees not finding her running about among their number, seem to think that they have lost her, and so return to the old hive, as all bees of a swarm do when the



queen does not cluster with them from any cause like clipped wings, etc., which does not enable her to fly, only in this case the bees balling the queen, and those very near this ball which can catch the scent of the queen, stay with her. If these returning bees are stopped from going home they will scatter into other hives, and are lost by being killed as intruders. I have had thousands slaughtered by their trying to enter into other hives, and soon learned that it was better to let them go home, than have them killed entirely thru my interference.

Sometimes I would hunt out the queen by smoking the ball of bees till they releast her, when she was caged and placed between the combs, or hung down from the top-bars of the frames, when no combs were used in hiving the swarm. In about half of these cases this satisfied them, while at other times they would ball the cage, so it would do little if any good.

I now secure the queen as before; but instead of using a common round cage I make a large flat one to reach clear across the frames. Into this I put the queen and lay it on top of the frames, when the bees can reach her thru the wirecloth between every frame in the hive, which always seems to satisfy them. The next morning I let her loose and remove the cage.

#### ROUND PIECES OF WAX NEAR HIVE-ENTRANCES.

"What is the significance of finding in the morning a lot of little round pieces of dirty-colored wax near the entrance of some hives?"

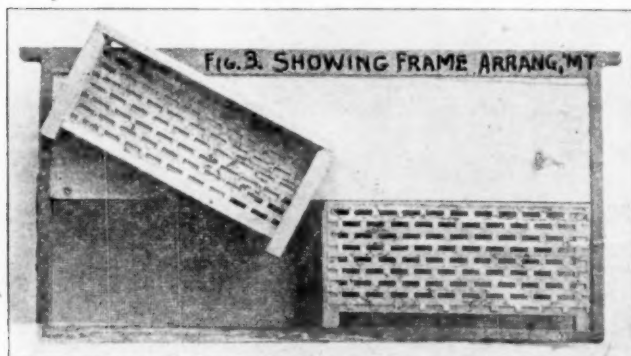
**ANSWER.**—So far as my observation goes, the finding of such round pieces signifies that drones are hatching out; or, more properly speaking, emerging from their cells; for, if any one will take the time to examine closely, he will find that the drone, when about to emerge from the cell, bites the cover of the cell entirely off by a smooth cut, while the workers leave only fragments of the cappings of their cell-coverings when they gnaw out. The queen cuts off the capping to her cell the same as does the drone, except, as a rule, a little piece on one side is left, which often acts like a hinge to a door, the "door" often closing after the queen has gone out. Where no such hinge is left, then the caps to the queen-cells are tumbled out of the hive the same as are the drone-cappings, but in no case would there probably be more than four or five caps from queen-cells out in front of the hive on any one morning.

If the little door thus closes, as is spoken of above, the bees often make it fast, so that the inexperienced beekeeper is often deceived into thinking that the queen has not yet emerged from her cell.

Then, again, it often happens, as soon as the queen has emerged from her cell, that a worker goes into the cell to partake of the royal jelly left in the cell, after which the cell-cover flies back, or is pushed back by the ever-traveling bees, the bees then sticking it fast, when the bee is a prisoner, which has caused many to think that the inmate of the cell was not a queen but a worker; hence they call their colony queenless, sending off for a queen, only to lose her when they try to introduce her.

It is well to understand all of these little kinks in bee-culture, as such an understanding will often pay us largely in dollars and cents.

Some suppose that the round caps spoken of by the correspondent indicate the uncapping of cells of honey, either by robber-bees or preparatory to the carrying of the honey from the outside of the hive to the center thereof; but this is a mistake, as the cappings from the honey-cells





are gnawed off in little fragments, and not in the round form spoken of.

#### VISITING DIFFERENT FLOWERS IN GATHERING HONEY.

"In gathering honey, do bees visit different kinds of flowers on one trip, or gather honey from one kind of flowers only?"

ANSWER.—From the fact that bees never bring in pollen of different colors in their pollen-baskets at the same time, the idea has obtained that they visit only the same blossoms, or blossoms of the same color, which idea in the main is correct, or very nearly so. Regarding this point I will say that, in gathering pollen, I never saw a bee change from one kind of flower to another, except on the clovers. I have seen bees gathering pollen from white, red and Alsike clover at the same time; but those clovers gave the same colored pollen. When we come to honey I have seen bees fly from a gooseberry-bush to a currant-bush, and from clover to raspberry bloom, and *vice versa*. I have also seen them go from the red variety of raspberry to the black, where the different kinds of bushes were planted side by side, or in alternate rows; still, all that does not prove that bees gather honey promiscuously, for I do not believe they do. It will be observed that all of the above, except from clover to raspberry, were of the same species of plants, or nearly so. Teasel and basswood bloom at the same time; but never, in all of my watching, did I ever see a bee go from teasel to basswood, or from basswood to teasel.

Onondaga Co., N. Y.



#### Some Experience of the Present Season.

BY J. C. ARMSTRONG.

I HAVE kept bees for nearly 40 years, and have come to the conclusion that there are more surprises in the bee-business than in any other in my knowledge. Owing to a cranky neighbor I made up my mind a year ago I would divide my bees and have no more swarming. My bees were very light in stores last fall, and I fed some of the lightest of them. When I put them into the cellar I was fearful that some of them would never come out alive, but luckily they all pulled thru, and out of the 10 colonies I suppose I took out about a gallon of dead bees. I had them in confinement 138 days. They all had a little honey, and some of them *very* little. I thought I must feed them a little till fruit-bloom came, nearly every day, and did so all but two of them.

They gathered up considerable during fruit-bloom, but I could not see what they were to get after that till basswood came, as the white clover was nearly all killed last winter, and I had heard it said that the young clover (and there was an abundance of that) would not afford any honey the first year.

They had by this time become pretty strong, but from the outlook I could not think it a good time to commence dividing. But on May 23 they commenced swarming, and took the matter into their own hands and swarmed, and swarmed. But after basswood was over they seemed to let up a little, and commenced killing off their drones. But within the last two or three weeks they have changed their tactics, and this has been the most lively week with me of the season. They seem to be gathering as rapidly as at any time of the season, and from the young clover. They are booming with bees, send off good-sized swarms, and some of them *very* large. There has been just enough honey coming in, in the scarcest time, to keep the queen laying, with plenty of room to spread herself. I am all "at sea" now. I thought two weeks ago that swarms that came off then would have to be fed for winter stores, but I believe they have now as much as some of them had that I put away last fall. Still, they are stronger in bees than those were, and of course will require more.

I have lost four swarms, and have doubled my number. I had one to leave me to-day. It is a question with me which to do, hive them in empty hives, or destroy the queen-cells in the parent hive, and run them back. The one that came out to-day alighted in a place that it was difficult to get at, so I concluded to let it go, consoling myself with the thought that most of them would die off before spring, after helping to consume part of their winter stores. So I put what they would gather from now until the honey season closes, against what they would eat before they die.

I have often thought of a plan pursued by Mr. Hosmer, of Minnesota, some years ago. He claimed a quart of bees as all he wisht to put away into winter quarters, and would

take the combs and shake part of the bees on the ground, claiming that the old bees would shake off and the young bees would stick to the comb. This seems like a barbarous action, but, full as the hives seem now, I believe it would pay.

I have adopted the plan with some of my hives with which I am so well pleased that I think I will follow it generally next year. It is to clip the queen's wings, then when the swarm comes out I set a tumbler over the queen, remove the hive to another place, and set an empty hive in its place, and when the swarm commences to return let the queen run in with them. Or, after the swarm returns, destroy the queen-cells in the parent hive, set it back, empty the bees out in front of the hive, and let them run back.

I would refer the subjects mentioned in this to Dr. Miller for any advice he may choose to give me as a guide to the future.

Marshall Co., Iowa, Aug. 11.



#### From the Egg to the Perfect Bee.

BY H. W. BRICE.

ON examining a cell just after an egg is laid, we find a small white speck standing on end, attach to the base of the cell, and slightly on one side of the apex thereof; it is fixt in this position by a watery, semi-sticky substance which at this period envelops the whole of the egg. Within a few moments, however, one of the nurse-bees enters the cell—head first, of course—and, after a few seconds of activity, withdraws and hurries away to the next cell to "go on" as before.

Now, let us examine the cell again, and we find that the nurse-bee has carefully placed the new laid egg down on its side, and in its orthodox and proper position at the bottom of the cell. The egg from this time forward is a matter of constant care and attention on the part of the nurses, that are persistently examining it, probably to see how it is "getting on."

On the second day we find the bees have shifted its position to an angle of about 35 degrees; on the third it is again moved to a horizontal position, and on the fourth day it hatches out.

This brings us to the question, What is the still undeveloped insect to be? But in any case, whether worker, drone, or queen, we find the young larva lying in crescent shape at the bottom of the cell, and here it rests for some hours almost unnoticed by the bees, and certainly unfed for 12 hours. Then is seen a little transparent food, upon which the larva almost floats. In 24 to 36 hours the food first exhibits a slight milky opacity, and becomes more abundant until about the third or fourth day, during which time the food is absorbed by the mouth and other portions of the body floating upon it, the larva passing no ejections whatever. At the period mentioned—and with either worker or drone larvæ—what is known as the "weaning period" occurs, and for a short time no food is supplied. Then, when nourishment is again necessary, the food is changed, and the rich nutriment previously given—which appears to me to partake of the nature of "royal jelly"—is discontinued, and honey and partly-digested pollen take its place. The worker-larvæ are fed on this until the end of the eighth day, when the cells are cap over, and after the 21st day the insects come forth from the cells perfectly developed, in the form of brownish-gray little creatures, apparently regarded by the adult workers as hardly belonging to the same community. However, in a very short time the newly-arrived ones are running about the combs, clearly to the "manor" born.

Drone-larvæ are fed for one day longer than the workers, the cells being sealed over about the ninth day. They do not, however, issue as perfect insects until after the 24th day from the laying of the eggs, both days inclusive.

Bees have the power to prolong the above times, but I have failed to discover that they can shorten the time occupied in the metamorphosis. They have, however, a marvelous power of lengthening the period, instances having come under my notice where worker-larvæ have been kept at apparently from three to four days old from the egg, until the eighth day, these same cells having been found unsealed on the 12th day. This often happens in queenless colonies.

I have also known drone-larvæ to remain unsealed for days after the generally-accepted period. The protraction of time in sealing the cells is more markt, however, in the case of queen-rearing. A larva intended for a queen is fed during the first three days on the same partly-digested food

as the worker and drone larvæ, with the important difference that the larvæ intended for queens are fed abundantly with this food from first to last, and are not weaned or stinted in any way or at any period, thus the usual time for a queen to develop is 16 days; viz., the egg hatches on the fourth day; larva fed until the eighth day, when an extra abundant supply of food is given, and the cell is sealed by the ninth day—the perfect queen coming forth on the 16th day.

This is generally the case under normal conditions, but it is not unusual to have whole batches of queens not forthcoming until the 18th and 19th day, sometimes issuing nearly all at one time, and sometimes hours after one another, being almost entirely dependent upon when the cells were respectively sealed.

This power of controlling the development of their young, and the many varied circumstances which affect this question is one of the most absorbing phases of our craft, and is another portion of scientific bee-keeping upon which more light is wanted.—British Bee Journal.



### Running an Apiary for Extracted Honey.

BY F. A. SNELL.

**I** FIND it quite essential to run a part of my bees for extracted honey, as I have quite a number of customers about home who wish their honey in this form, and distant customers as well. The lower price at which it is sold compared with that in the comb, is no doubt the main reason. Another reason with buyers living at a distance is, the safety with which it can be shipped, and the lower freight rates charged for transportation. I wish to be in shape to supply all who want to buy, and can only secure this condition by having a supply of both comb and extracted honey on hand.

It is seldom that any surplus storing-room is needed here until the opening of white clover bloom, early in June. The latter part of May or first of June I have all supers in shape to put on the hives, all being clean, or free from dust, webs, or litter of any kind.

At the opening of the honey-flow from white and Alsike clovers, the upper stories for extracting are put on all colonies strong enough to need them. Perhaps in from a few days to a week later other colonies will need room, which is given. Bees increase very rapidly at this time of year, and their strength and progress are noted once each week, and more room given if required by colonies not supplied with upper stories, until all are given supers.

After work has been well begun in the supers, if the honey-yield be good, the first stories on the stronger colonies should be raised up and a super with complete empty combs placed next to the brood-chamber, and the first one placed at the top. The bees will then have time to complete the first and better ripen the honey before extracting than when the honey is taken sooner. The bees are not then crowded, and more and better honey will in a good season be secured by thus tiering all strong colonies.

As a rule I do not extract from the combs given later when taking the first honey. Very little if any new or thin honey will be in the top story when the extracting is done, but will be next to the brood-chamber.

In five or six days after giving the second stories I empty the first ones given, and the same evening, or next morning after, I place these empty supers under those partially filled on the hives, bringing the latter to the top.

I proceed in the same routine until the close of the summer harvest. About one week to ten days later I extract the honey from all upper stories, and at early evening place the empty supers on the hives for the bees to clean up and care for the combs, which are left on the hives until the close of the honey season, unless the fall flow is so great that more room is required, in which case the honey is removed and combs returned to the bees.

At the close of fall bloom, or soon after, the extracting-supers are all taken off, the honey thrown from the combs, and the supers placed at one side of the bee-yard, tiered up, and the little honey remaining in the combs is cleaned up by the bees, and mice excluded; thus the supers remain until the next season.

In taking honey from my bees I have practiced the shaking-off and escape plans of ridding the combs of bees when extracting.

In producing this honey I use a queen-excluder over the brood-chamber, which keeps the queen and all brood out of the supers. When I have a large amount of honey to ex-

tract, by the shaking-off plan, three of us work at it. One stands behind the hive with smoker well lighted, with which the bees are kept under control, and out of the way; a frame of honey from one side the hive is taken out, and the bees given a little smoke, when the frame is handed to the second man, who shakes most of the bees off by one or two quick jerks. The few remaining bees are brushed off with a brush made from asparagus tops tied in a bunch, which I like better than those for sale, as I have tried such.

This second man then places the honey in an empty hive-body, which stands on a cart near at hand. The second frame is taken from the hive by man No. 1, and treated the same as the first. No. 2 frees the comb of bees and puts it beside the first frame, and so we proceed until the hive is empty of frames. If the hive is a three story one, the empty body is removed, bees driven down out of the way, and the hive closed.

No. 2 wheels the cart to the honey-room door, lifts off the hive-body and combs, and places it on a bench in the honey-room, raised one inch, by strips, from the top of bench proper.

When extracting from two-story hives, the combs of honey are taken out and the empty body filled with empty combs by No. 1 before closing the hive, No. 2 taking a set of frames empty of honey from the honey-room each time one is brought in full.

Man No. 3 takes out the first frame, uncaps the sealed cells, and places it in the extractor; the second and all other frames in the first hive-body are thus emptied and placed back ready to be returned to the bees.

While uncapping the combs the frames rest on a rack at the top of the uncapping-can, the comb or caps dropping below into a metal basket made of perforated tin. From this the honey drains to the bottom of the can.

From the extractor the honey is run into a pail, and from that poured into a large can covered with a strainer-cloth, which keeps out all specks of comb, bees, flies, etc., if such are present, and the little specks of comb or caps always are. The honey from these cans will run out of the gate at the bottom clear and nice.

Man No. 2 at all times shakes the bees from the combs on an alighting-board just in front of the hive-entrance, and from which they can run into the hive.

The above method is best practiced during a good honey-flow. During a time of scarcity I much prefer the escape plan, of which I will speak later.

Carroll Co., Ill.



### Covering the Brood-Frames with Paper During the Season of Cold—Is it an Advantage to the Bees?

BY W. W. M'NEAL.

**I**F there is one good thing that I enjoy above another it is *light*—beautiful light—be it in the heart or “out-doors.” And I believe I never appreciated it more fully than on Feb. 15, last, when after the clouds had rolled away, the gentle sunlight again reached my little apiary and me. The air became remarkably dry, however, during that time, so much so that when the mercury was 20 degrees below zero, and sometimes lower, the cold did not penetrate to one's very bones like the damp, chilly air we so often experience here along the Ohio River.

My bees were in single-walled hives, with the poorest of stores it had ever been my misfortune for them to have. As day after day past, and the cold did not abate, I could not conceal from myself the fact that my watch over the bees was becoming no less than a death-watch; I was hoping against hope, and when the sun did shine, it was a sorrowful sight to see the bees dragging themselves out of their cold, comfortless hive, with swollen bodies. Doomed they were, as much from discouragement, seemingly, as the effects of poor food and the cold.

Of all this, two things stood out very prominently, namely, that where such extreme cold is, a properly-constructed cellar should be the place for the bees during that time; and that honey-dew—such as we had here last year—is not a winter food for bees. By a lack of warmth-producing elements, it simply overburdens the bee long before the expected time. Honey, good, ripe honey, is the food for bees; having it, I am not afraid of their suffering from confinement to the hive by the cold.

The only extra protection I have given the bees of late years in these hives was several thicknesses of common newspaper placed directly on the frames, the upper ones



projecting far enough over the sides and ends of the hive so that when the super-cover was on, the large telescope cover would press the paper down over the hive for three or four inches, cutting off to a minimum the upward draft.

The frame I use is self-spacing, of the Root-Hoffman style, tho a little shorter and some deeper than the Langstroth frame. I consider this frame better adapted to the wants of the bees than the loose, swinging Langstroth frame, and, since of late the seasons have been so very uncertain as regards the honey crop, I think it best to yield these little conveniences, some of them at least, to the bees.

Now, do you not see that by closing the space between the top-bars of the frame and the space between the end-bars closed part way down, the space between any two combs is, to a large extent, a little hive all to itself? Can you think of a more convenient way of making the hive always fit the colony? If all this were no advantage to the bees, why did my bees fare better than those of many beekeepers who winter their bees in the orthodox way—that of having an air-chamber over the cluster?

I will venture to say, many colonies of bees that died last winter did not die of starvation, because there was no honey-(dew) in the hive, but because the temperature within the hive was so cold they could not reach it. Why not, I say, confine the warmth of the cluster to the frames on which the bees are?

You who claim that it matters not if the heat does escape over into the outside spaces between the combs, even to the sides and ends of the hive, for it is still within the hive, and finally returns to the cluster, do you think the bees recognize the fact? Do you think *you* would, if placed in a like situation? I fear not. When the air-space or bee-space over the frames is used in connection with a thick-wall hive, I know of no better death-trap in which to torture bees, especially when the colony is already numerically weak. They cannot generate sufficient heat to ward off the cold, and the winter sunshine never penetrates the icy walls. A thick-wall hive is all right for a large colony, for they of themselves can keep warm within its walls. There they remain quiet—when the food is right—for the light does not attract them.

The single-wall hive is better down here for weak colonies, from the fact that the sun shines frequently—that is, usually—and the hives warm up quickly, tho these frequent flights the bees take cause the queen to lay too early, which also causes her to fall behind at the very time she should be doing her best.

Scioto Co., Ohio.



### The Advantages of House-Apiaries.

BY A. H. DUFF.

I THINK that bees would be more generally kept in houses if those who keep them would try my plan of management. It is true that quite a number have house-apiaries, and quite a good many of these houses are very peculiarly constructed, and many of them of old date. It seems that in the past considerable prejudice existed against keeping bees in a house, and house-apiaries seemed to be discarded. I think the feeling originated because of structures that were not suited to the purpose intended. I know that some such buildings were very peculiarly and very expensively built, and filled with all manner of ventilators, slides, shelves, and tiers of hives. They were very long, narrow buildings, and certainly disgusted the writer with house-apiaries.

I have used two kinds of houses for bees that I like. One was on a small scale, and the other on a larger one. In the first place, I consider the expense of such things, and adopt something that is as cheap as possible, yet something that will answer the purpose for which it is intended. Perhaps I do not put on quite enough style, but if I cannot make bees bear their expense and give me a profit that will pay me for my attention, I will quit the business, and also stop writing about them.

To get about all the benefit of the house-apiary on a small scale, we construct a house that will accommodate 10 colonies of bees at about the same expense that it would cost to make 10 chaff hives for these colonies. A small house 6 feet wide, 10 feet long, and 7 high, will cleverly accommodate 10 colonies, and give good working-room, besides leaving at the end ample room for an extractor. By using two tiers of hives, which is done in most house-apiaries, it would double the number of colonies. But here I will say, that after trying the plan of two tiers of full colonies in a house, either large or small, I have totally abandoned it.

I do not want full colonies except on the floor, and for the second tier we can conveniently place nuclei for queen-rearing. In these small houses I would only use floor space enough to set the hives on each side, and have a ground floor thru the center to stand on while working with them. In some respects these small houses are preferable to large ones, as they can be made portable and so arranged in an apiary that bees never become bothered in finding their way to the hives, as is the case with those long house-apiaries. They are also very convenient to winter in, as loose chaff may be well packed about the hives, and the house may be half filled with it. As a wintering arrangement they are superior to any chaff hive, and, as I said above, they are just as cheap, if not cheaper. A house of this kind may be made and painted nicely at a cost not to exceed \$10, or one dollar for each hive.

On a large scale I have an ordinary cottage-house of two rooms, accommodating about 40 colonies, using but one tier of colonies on the floor, and on the second tier above I use nuclei for queen-rearing only. This on account of giving more room, I like still better than the small house, and as for shape and convenience, I prefer an ordinary room or rooms, in preference to anything else. I set the hives on an ordinary bottom-board, about four inches from the floor, setting them back from the wall about three inches, thus giving working-space, and room for packing in the winter. Any house of ordinary construction, one that may simply break the wind and turn the rain—a floor is not a necessity—will answer all the purposes of a modern house-apiary. A building of the size of the above, or larger if required, and a number of the small houses as described, would be my ideal apiary.

The advantages of having bees in a house are many. There is not a day in spring, summer and autumn, but you can perform any work with them desired. Hives, supers and fixtures generally, need not be made and painted so as to stand the outside weather, which would add to the cost materially. All of these fixtures will last much longer by keeping them out of the weather, and will remain in proper shape that will allow of their adjustment to the proper place. Bees are much easier worked with in a house, as they seldom attempt to sting. No bees are flying about when you are at work. No robber-bees bother when you open the hives. Feeding is a pleasure. In extracting there are no bees following you around to get a taste. If you happen to get a few bees inside, darken the windows, and by thus throwing the rooms in darkness, and with a few little holes or cracks that will admit the light, the bees will make for them at once, go out, and in less time than I can write this they will all be outside. Of course you want bee-escapes at the windows, which will ordinarily let them out.

During the honey season, which occurs in the hottest time, the opening of hives and the handling of heavy combs of honey are always done at more or less of risk when out in the hot sun, and must often be done at quite a distance from the extractor. In the house, the extractor sets in the center of the room, and it is but a step or two to the hives, as they are all about the same distance away, and only a part of the combs need be removed at a time. In queen-rearing, and introducing queens outside, we often lose valuable queens; the queens fly from the combs which we are handling, and fly away. This does not occur in the house. There is also no melting down of honey-combs in excessively hot weather, as in the case of hives out in the sun. The advantages of fixing them up for the winter, and their chances for wintering better, are equally great.—Agricultural Epitomist.

Pawnee Co., Kan.

York's Honey Almanac is a neat little 32-page pamphlet especially gotten up with a view to create a demand for honey among should-be consumers. Aside from the Almanac pages, the forepart of the pamphlet was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample for a stamp; 25 copies for 40 cents; 50 for 70 cents; 100 for \$1.00; 250 for \$2.25; 500 for \$4.00. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

The Premiums offered on page 587 are well worth working for. Look at them.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

### Getting Straight Section-Combs—Italians and Red Clover.

1. How can I get nice, straight combs, of a uniform size, built in the sections? Some of my sections of honey weigh  $1\frac{1}{3}$  pounds, while others only weigh  $\frac{3}{4}$  of a pound.

2. A neighbor told me he didn't like the Italian bees, for they were poor honey-gatherers, but good breeders. Is that a fact?

3. Is it a fact that there is a strain of Italians, or any kind of honey-bee, that has a proboscis long enough to gather honey from the large red or mammoth clover?

4. When is the best time to sow Alsike clover seed? I have just seeded  $\frac{1}{2}$  an acre, and scattered lots of Alsike seed around my sloughs. Did I do right? MINN.

ANSWERS.—1. Use the small boxes or sections in common use, and have separators between them. There will be a little variation in weight, but no such variation as you mention.

2. I keep bees entirely for gathering honey, and I try to keep them as nearly pure Italians as possible. There are many others like me.

3. As a rule, hive-bees do not store from red clover, but sometimes they are known to do so, either because at times the flower-tubes are shorter than usual, or for some other reason. There have also been reported strains of Italians that work much more on red clover than the average.

4. Sow Alsike at the same time red clover seed is sown in your region. It was very likely a waste of a good part of the seed to sow in August. If it does not come up till next spring a good share will be lost.

### A Case Where Queens and Bees Died.

About the last of July, 1898, there came a little boy into the shop saying the bees were swarming. So I went out and stood and lookt at them a few minutes, and the bees began pouring out of another hive, and another, and so on, till it went as high as seven. They clustered in regular form all together. I tried to get them to go into two hives, but did not make it work. They all wanted to stick to one hive, altho it was more than full. They appeared to work all right, as I watcht them for a day or two. I did not examine them till sometime the first of September, when I saw that they were very heavy. In November, when I put them up for winter, on examination I found the hive as full as it could conveniently be of good white honey, no signs of brood, and not a live bee in the hive, and only about a handful of dead ones. The honey was all capt in good shape, perhaps 15 or 20 cells being filled with pollen. I have handled bees for 40 years, but never saw the like of this before. MINNESOTA.

ANSWER.—The queens were all killed, and the bees stored honey until they died off from old age. No brood being reared, the combs all remained white. That's about the whole story.

### Position of Winter Stores in the Hive.

The wintering of bees is an unsettled question for me yet. I lost over 50 percent of my bees in chaff hives last winter.

Where is the place to have the winter stores? Would it be best above, or on one side, or on both sides of the cluster? My bees had plenty of stores last winter. The brood-nest was in the center, the bees moved to one side for food, ate it all up, and then starved, while on the other side

were 3 to 4 frames full of sealed honey. I thought to fix the hives, or bees, like this: Winter stores on one side, and bees on the other side, then the bees would go towards the center of the hive, until about January, the coldest time, they would always move towards their stores. PAOLI.

ANSWER.—Left to themselves, you will probably find that bees will always do as yours did, and store the honey at both sides, having the brood-nest in the center. One would think that bees know their own business best, and know just where to store their winter stores for safety. But your experience appears to contradict this, and your experience is that of many others. We must remember, however, that in a state of nature bees don't have their homes in a hive shaped like yours. The old straw skep of our forefathers comes nearer the mark. In that the stores are not on both sides, nor all on one side, but above. That's the best place for winter stores, and if we are building for the bees alone we will have our brood-chambers shorter, narrower, and deeper. But for our own convenience it is much better to have them the shape they are. You have struck the right idea in thinking that it is better to have the honey all at one side, since it cannot be all on top. Then there will be no danger that the bees will be stranded on one side with plenty of stores lying idle on the other side.

### Comb Foundation in Section Honey.

Is there any way of producing comb honey without the thick mid-rib with the use of full sheets of foundation? I purchast, last spring, sufficient foundation, supposed to be "extra thin," and filled sections with the same. The results have been perfectly satisfactory with the exception that a number of my customers complain of the amount of wax in the honey, and so I seek information, to know if you, in your experience, have any remedy to suggest. The use of starters suggests itself, but the product is not as perfect nor as pleasing to the eye as the section with the full sheet of foundation.

Many small bee-keepers in this locality complain of the poor yield, and no doubt are justified in their complaints, many having nothing to show in the way of surplus from new swarms. CONNECTICUT.

ANSWER.—I know of nothing better than to use thin or extra thin foundation. Isn't it just possible that some of your customers are a little hasty or prejudiced in their judgment? When extra thin foundation is used in a good flow of honey, it is somewhat doubtful whether any one could tell it from the natural product. Indeed, some of the foundation now made has a base that is thinner than the natural base.

### Questions on Brood-Frame Arrangement.

1. Is there any objection to using the Langstroth-Simplicity brood-frames if I make my hives so long as to place the brood-frames just level with the top of the brood-chamber, instead of placing them on top of the rabbets? Will the wide space that will be left on each end of the frames, between the end-bars and the end of the hive, do any harm?

2. How far apart shall I space the brood-frames so as to have just the right bee-space? And will not the half of the spacing that is between the center frames do between the last frame, that is, the frame next to the side of the hive? or should they all be spaced-alike?

3. How much honey will a Langstroth-Simplicity brood-frame contain when well filled?

4. Which brood-frames are most proof against propolis? Are the self-spacing all right?

5. Can I use the Simplicity brood-frames without any spacer strip on the bottom-board? I wish to notch down the top-bar  $\frac{3}{8}$  only, and let the frames hang loose, if this will work all right. MINNESOTA.

ANSWERS.—It isn't easy to understand clearly just what all your questions mean, but it may be said in general that very many changes and variations of the Langstroth hive have been made and rejected, and the probability is that unless you have had a long experience any change you may make will do more harm than good. But answering your questions as fully as possible:

1. I don't know of anything you would gain by having the top-bars level with the sides and ends of the hive, and whatever is placed over the hive would have to be specially adapted to the change. If you have more than  $\frac{1}{4}$  or  $\frac{3}{8}$  of an inch between the end-bars and the end of the hive, the



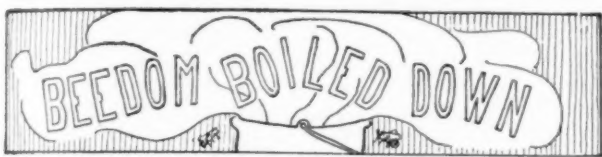
bees will build comb in the space, and that will be in the way of handling the frames.

2. Perhaps the majority space their frames  $1\frac{3}{8}$  from center to center, altho some prefer  $1\frac{1}{2}$ . There should be about the same space between the outside top-bar and the side of the hive that there is between the top-bars.

3. Perhaps somewhere from 5 to 7 pounds.

4. It depends upon the kind used whether self-spacing frames are all right. The worst frames as to propolis that I ever used were self-spacing, and those that gave the least trouble were also self-spacing. If the spacing depends upon having a large part of the frames come in contact with each other, then there will be trouble with propolis in a region where propolis is plenty. The least trouble is with frames that have very small points of contact, as when common nails are used for spacers.

5. Yes, probably most loose-hanging frames have no spacing strip. But you can hardly have anything like exact spacing at the bottom if the frames hang entirely free.



**Keeping a Caged Queen.**—Editor Hutchinson, of the Bee-Keepers' Review, says she may be left for days laid at the entrance of any populous colony during the working season, and the bees cluster over the cage and care for the queen just the same as tho she were inside the hive.

**Wood versus Wire.**—In the Australian Bee-Bulletin the question is asked whether splints of wood have been tried in place of wiring, and with what results. One man says he has used the wood with much satisfaction, another intends to try it, the remainder have no experience, and one of them thinks it "best for poor bee keepers to keep on well beaten tracks."

**Automatically Reversible Honey-Extractors.** Editor Hutchinson, of the Bee-Keepers' Review, found used by several Wisconsin bee-keepers, but they ignored the automatic feature, stopping the machine and reversing by hand. The reversing in motion results in a shock which may injure new combs, and it is hard on the muscles of the operator. The Cowan reversible, as now made with a brake, he thinks the most desirable extractor on the market.

**For Safe Handling in Shipping.** Editor Hutchinson, of the Bee-Keepers' Review, says he saw the following printed in enormous letters and pasted on the tops of crates:

**"DO NOT TIP OR TURN OVER.**

THIS IS THE TOP OF THE CRATE, NOT THE BOTTOM. IF HANDLED ROUGHLY THERE WILL BE DAMAGES CLAIMED FOR BREAKAGE."

Mr. Hutchinson thinks something like this on crates of honey might be heeded by freight-handlers. Possibly, however, it might be heeded as much if a little more in the way of a request, and not so much in the way of a threat.

**Source of Honey-Dew.**—John Handel, while admitting that it is possible that "plants under certain atmospheric conditions exude a sweet juice from the surface of their leaves," says that under very careful observation he has never seen anything of the kind, and gives the following as a reason why observers, otherwise careful, have been misled: The spray as ejected by the aphides is so fine that a slight breeze will carry it quite a distance. It sticks to any thing with which it comes in contact, and absorbs moisture to such an extent that a small particle will spread over a large surface, and still leave a film when it dries. A single drop may start near the top of a tree, and drip from leaf to leaf, while wet, and leave a gloss on each leaf.—Bee-Keepers' Review.

**Safe Introduction of Queens.**—G. M. Doolittle gives in the American Bee Keeper a plan he has followed many years with very rarely a failure, which, altho it has been given before, will bear repetition: Take a piece of wire-cloth 8 inches long and 5 wide. Cut an inch square out of

each corner, and bend up at right angles the sides and ends. That makes an open box 6 inches long, 3 inches wide, and an inch deep. Unravel the wires a little more than half way down. Remove the queen to be superseded, shake the bees from the comb on which she was, place the new queen upon it where there is hatching brood and honey, press the wires of the cage into the comb till the unraveled part strikes the surface, put the comb in the hive, and leave  $\frac{3}{4}$ -inch between it and the next comb, so the bees can travel all over the cage. In a day or two—or as soon thereafter as the queen has laid some eggs—quietly lift off the cage, and all will be well.

**Temperature for Brood-Rearing.**—In Gleanings in Bee-Culture G. M. Doolittle gives an interesting account of experiments made with a thermometer to ascertain the proper temperature for brood-rearing. On a cool night in May, when ice as thick as a window-pane formed on water, he found the lowest point reached in the brood-nest was 92°. Repeated experiments with strong and weak colonies never showed a lower temperature of the brood-nest, while some of the stronger colonies gave a temperature of 95° on nights in which there was some frost. On the hottest days he found a self-registering thermometer showed 98° as the highest point reached. So he concludes that whatever favors holding the temperature somewhere from 92° to 98° is favorable to brood-rearing. To this end he likes a chaff-packet hive with a metal roof, all painted dark. The hive is allowed to stand in the sun to get its full benefit till steady warm weather with large population, when a shade-board protects against the hot sun.

**Sections Sealed Next the Wood** have been considered desirable, and in grading comb honey such sections have taken a higher place. Lately, however, the idea has been advanced that a section is preferable which has no honey in the cells next the wood, not having the dauby appearance of one with honey leaking all around when cut out. A Stray Straw in Gleanings in Bee-Culture says:

"Tastes differ. Mr. Niver and other New Yorkers like to see on a plate a section of honey that is nice and dry, because no cells are filled next the wood. To me it looks far more luscious if the cut cells show, and it is surrounded by some of its own rich gravy."

To which Editor Root replies: "When Mr. Niver presented his view I was inclined to think he was right; and now you have presented your notion, I have flopt again. There is no denying the fact that a chunk of dripping crystal honey has a sort of lusciousness about it that makes one's mouth water. A chunk of comb swimming in its own crystal sweetness reminds one strongly of the good old days gone by, and of how our fathers and grandfathers used to dish out honey in great chunks smeared 'in its own rich gravy.'"

**Giving Swarms to Nuclei.**—The critic of the Bee-Keepers' Review, Hon. R. L. Taylor, refers to page 371 of this journal, where "Doolittle criticises Dr. Miller sharply," comments the response of the latter, but says he failed to reply to one point, "the method of giving swarms with nuclei." Mr. Doolittle gives as the only safe way, the advice to set the nucleus on the stand of the swarming colony, smoke its bees, and as the swarm begins to return without its queen, which has been removed, shake the nucleus 12 to 18 inches in front, letting them run in with the swarm. Without this precaution the bees of the nucleus would, in nine cases out of ten, kill the bees of the swarm as fast as they came back. Mr. Taylor is surprised at this, having never found it necessary during swarming time to use any such care. Recently he has had considerable experience directly upon this point. For certain purposes he had formed a number of nuclei with virgin queens, and says:

"The hope of surplus having past, and bees in the shape of swarms being superabundant, I have dumpt many in front of these small colonies, without ceremony, and let them run in. In no case was there any quarreling. In all my experience in such cases I have only deemed it necessary that the invading bees should be in considerable numbers and without a queen; and if of a prime swarm, that the queen of the nucleus should be fertile."

Then he hints that "locality" may have something to do with the case. It might be well if Dr. Miller would break silence on this point long enough to tell us whether he has had direct experience upon it, and if so, whether his "locality" is like that of the New York or the Michigan man.

GEORGE W. YORK, Editor.



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**United States Bee-Keepers' Association.**

Organized to advance the pursuit of Apiculture; to promote the interests of bee-keepers; to protect its members; to prevent the adulteration of honey; and to prosecute the dishonest honey-commission men.

**Membership Fee—\$1.00 per Annum.**

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GEN'L MANAGER AND TREASURER—Eugene Secor, Forest City, Iowa.

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NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound.

**At Chicago in 1900.**—The Philadelphia convention of the United States Bee-Keepers' Association closed Thursday, Sept. 7, after a very interesting and profitable meeting. The election of officers, constituting the Executive Committee for 1900, resulted as follows:

President—Ernest R. Root, of Ohio.  
Vice-President—G. M. Doolittle, of New York.  
Secretary—Dr. A. B. Mason, of Ohio.

It was decided to hold the convention next year in Chicago, where will be held the annual encampment of the Grand Army of the Republic.

Now for a bee-keepers' convention of at least 500 in 1900. The old American Bee Journal extends a hearty invitation to every bee-keeper in the whole country to attend the Chicago convention of the United States Bee-Keepers' Association next year. The exact date will be announced later.

**Last Winter's Losses of Bees** are attributed by F. Greiner, in the American Bee-Keeper, to bad food. Chaff-packing seemed to make but little difference. Apiaries on the summit of hills suffered more than those in valleys. Locality seemed to have much to do with the loss, one yard being entirely wiped out, and another two miles distant coming thru without loss. As bearing directly on the matter of food, he says:

"Last fall I made mention of the soured honey some colonies had stored in the sections, and I have reason to believe now, had all colonies stored such honey in the supers, we would not have suffered the loss in bees that we did. It

would seem that at the time when the flowers yielded this inferior honey, part of the colonies stored it in sections, others in the brood-nest; some of them, perhaps, in outside combs, and others again, exactly above or very near where they took up their abode during the winter. These last ones were undoubtedly the ones that succumbed.

"This theory would also serve to explain the mystery why part of the colonies came out so well when others did not, apparently all having equal chances. Another circumstance seems to favor this view. A number of my colonies which were fed heavily till late in the fall on honey from a preceding year—feeding them for the purpose of having section honey finish up—came out in fine shape, every one of them! I have also referred to the fact already that the colonies which stored the soured honey in the sections came out all right."

**Washington Pure Food Law Rulings.**—In the Northwestern Horticulturist of recent date we find the rulings of the Washington State Dairy and Food Commissioner, E. A. McDonald, of Seattle. His ruling on honey—which is of particular interest to bee-keepers—is this:

**HONEY.**—Must be pure. Cannot be mixt with glucose or other substances and sold as "Honey Compound."

That is sufficiently explicit so that no one need be in the dark as to what kind of honey to put on the market in Washington—simply, it "must be pure."

**The Anti-Adulteration Sentiment** seems to be growing. It is high time that it should, for the investigation of food products made by Senator Mason's committee some time ago here in Chicago resulted in many startling and alarming revelations. The people are simply being financially defrauded and physically ruined by the villainous adulterations put on the market. Something must be done, and that right soon, to stop the onward course of the hydra-headed monster of food adulteration. We believe that Congress will act promptly and effectually when it once hears the report of Senator Mason's committee.

We were greatly pleased to read in the Saturday Evening Post—that splendid Philadelphia weekly magazine—the following editorial, which has the true ring, and which we of course heartily endorse:

**PROTECTING THE NATION'S HEALTH.**

If a merchant make large profit out of short weights and measures and adulterated goods, it does not add to his value to the community to have him a generous leader in religious and philanthropic enterprises. He is simply robbing the foundations of principle and character to purchase a temporary public prominence, and his influence is doubly evil because he constantly tempts his competitors to illegitimate expedients, and vitiates reputation by forcing himself forward as an example of dishonest gain purchasing position and respectability. Even when this successful man—successful from the financial standpoint—leaves a million or two to found an institution with his name emblazoned upon it, the usefulness of the enterprise is poor atonement for the viciousness of his business life. It cannot mitigate the effect upon every young man starting out in life who beholds in the benefaction an incentive to conscienceless money-getting.

If this merchant were to eat his adulterations himself, or even if he should feed his family upon them—altho he would hardly be as inhuman as that—we might excuse him on the point of personal liberty, and he and his might go to their indigestion and pepsin tablets and early graves in their own unhappy way. But when he imposes upon innocent customers, and fills their bodies with unhealthy chemicals, and clothes their backs with false pretensions, and takes their money for things that are not as they seem, he is not only a thief, but a public enemy, who poisons the very currents of trade. It goes further than this; if he is allowed by the other merchants to continue his nefarious traffic without a heroic endeavor on their part to stop it and punish him, he becomes, and his methods become, a criterion by which they are judged.

As it is with individuals, so it is with the countries, and the United States is beginning to reap some of the results. Never was adulteration as great in this country as



now. Never was it so ably defended by every resource of cash and counsel. For years it has multiplied in private ways—individual crimes here and there—until it has networked the country, and, having grown bold on its millions, feels itself strong enough to combine against the morality of business and the good name of the nation. There is no question whatever about the facts. The Congressional committee has collected a mass of them. Reputable journals have exposed them time and again. Chemists possess vast quantities of testimony. Foreign governments have taken cognizance of the matter to the injury of American reputation in every corner of the globe. We blame our friends across the sea for absurd restrictions upon our trade, and yet we allow as fine a lot of swindlers as ever lived outside of prison walls to ply their trade unhampered. From embalmed beef that poisoned the troops to condensed milk that kills the babies, the whole gamut of criminality is run.

It is not enough to say (and the statement is perfectly true) that the great mass of American producers and merchants are honest. The fact which compromises all is the impunity with which the adulterators are allowed to do their work, the liberty with which the sellers of adulterated goods are permitted to cheat the public. It is necessary not only for the safety of our own people, but for the interests of trade itself that the honest man fight the dishonest man, that they free themselves from the charge that they condone the crimes by allowing them, that they use the means best adapted to the end—a stringent national law.

In some of the States there have been measures of one kind or another in this direction, but they have mainly led to much litigation, and the evil has prospered. Now the time has come for Congress to act, and the whole moral sentiment of the country, with the united support of the press and business office, should aid the measure that is more necessary to the public health than a quarantine law, and which is absolutely demanded by our commerce if we expect to hold our own in the markets of the world.

LYNN ROBY MEEKINS.

**The Nebraska Bee-Keepers' Association** will hold its annual meeting at York, Nebr., Sept. 20 and 21, 1899, in connection with the horticulturists. We notice on the program are the following:

Address, Nebraska Bee-Keepers' Association—Pres. E. Whitcomb.

Practical Bee-Culture—E. Kretschmer, of Iowa.

Sweet Clover for the Farmer—Wm. Stolley, of Nebraska.

Fruit and Bee-Keeping Combined—G. M. Whitford, of Nebraska.

There will also be general discussion of questions of interest to all concerned. Of course everybody is invited to attend. Mr. L. D. Stilson, of York, Nebr., is the secretary of the Nebraska Bee-Keepers' Association, and will be glad to furnish any information.



Mr. J. D. GIVENS, of Dallas Co., Tex., writing us Aug. 29, said:

"The honey crop is a total failure here—not one pound have I taken this season."

\*\*\*\*\*

Mr. L. O. THOMPSON, of Addison Co., Vt., wrote us Aug. 28:

"I have 650 colonies of bees, and not one ounce of surplus honey. This season is the worst ever known in Vermont."

\*\*\*\*\*

**THE RELIABLE INCUBATOR & BROODER CO.**, of Quincy, Ill., is one of the most successful concerns in all this country. Their 20th Century Catalog is before us—a little over a year in advance of the appearance of the new century. But there's nothing like being prompt, you know. This fine catalog has 160 pages and cover, and contains a wonderful

amount of poultry information. It is also well illustrated. Better send for a copy of it, at the same time mentioning that you saw their advertisement in the American Bee Journal.

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Mr. G. W. LOGAN, of Camden Co., N. J., had the honor of having the Philadelphia Bee-Keepers' Association meet at his home Saturday afternoon, Aug. 12. The principal topic discussed was the convention of the United States Bee-Keepers' Association in Philadelphia.

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Prof. CHAS. HERTEL, superintendent of schools of St. Clair Co., Ill., had the misfortune to lose a driving horse Aug. 19, it being stung to death by his bees. He wrote as follows to Mr. E. T. Flanagan, of the same county, who forwarded the account to us, saying that it might save some one else from a similar loss:

**FRIEND FLANAGAN:**—This morning one of my black driving horses ran away while I was trying to get into the buggy. She ran into the bee-yard and upset half a dozen hives and hung with the buggy to a plum-tree. The bees soon literally covered the animal. We finally secured her after she had thrown herself to the ground. She squealed in her agony, and was dangerously frantic after we had rescued her. We could not quiet her until she was exhausted, when we gave her several doses of whiskey. However, she died in agony at 10 o'clock this morning. My son and myself are nearly sick from the effects of numerous stings.

CHAS. HERTEL.

In reply to the above, Mr. Flanagan wrote thus to Prof. Hertel:

**FRIEND HERTEL:**—If you and your help had dasht buckets of cold water *at once* on the bees and horse, and, after getting her loose, had continued to pour cold water over her, in all probability you would have saved her life. Cold water, when readily accessible, is one of the best agents in the world to subdue bees when on the rampage, as in this case. I sympathize with you, Friend H., but don't forget the cold water next time; and don't give any whiskey.

E. T. FLANAGAN.

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**LADY HENRY SOMERSET**, is always a prominent figure at the meetings of the International Council of Women, especially when they are held in London. On such occasions her place—the Priory—is thrown open to the American delegates and their friends. It was at a tea in the Priory during the latest London meeting of the Council that Lady Henry told how she came to devote a large part of her life to slum work among the children. Lady Henry, by the way, is almost as well known in this line of effort as she is in Women's clubs and British temperance work.

"It was this way," she said. "I was moved in that direction by the rare patience and imagination of one little boy. His example convinced me that patience was one of the qualities I needed most, and in seeking it I grew into that work. I was in a hospital on visiting day, while the doctors were changing a plaster-cast which held a crippled boy's limb. The operation was exceedingly painful, I was told, yet to my surprise the little sufferer neither stirred nor winced, but made a curious buzzing sound with his mouth. After the doctors left I said to him:

"How could you possibly stand it?"

"That's nothin'," he answered; "why, I just made believe that a bee was stingin' me. Bees don't hurt very much, you know. And I kept buzzin' because I was afraid I'd forget about its being a bee if I didn't."—Saturday Evening Post.

**Queenie Jeanette** is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

**Two Things to Remember.**—Please don't send to us for sample copies of other papers—we have only the American Bee Journal at this office. Also, whenever sending us a copy of a local paper which contains something you wish us to see, be sure to mark the item in some way. We haven't time to read a whole newspaper thru in order to find a small item occupying perhaps an inch or two of space. We are always glad to receive papers containing anything that you think might interest us, but we want them marked.

# Root's Column

## WANTED HONEY

Have you any to sell? If so, write us at once giving full particulars and be sure to state the lowest price you will take. If you want any part of the payment in bee-supplies, please state this also. Do not fail to say from what source it is gathered and how it is put up.

## HONEY FOR SALE.

A good many bee-keepers buy of us when their crop is short as they have a local trade they want to hold. We have secured some nice lots, especially extracted, so write us if you want to buy. . . . .

New Edition of the  
A B C of Bee-Culture  
Ready Sept. 15.

Watch for our Column Next Week.

ADDRESS  
**THE A. I. ROOT CO.,**  
MEDINA, OHIO.



In the multitude of counsellors there is safety.—Prov. 11-14.

### Spraying Fruit-Trees While in Bloom

Query 163.—As the spraying of trees and vines while in bloom has caused much destruction of bees and great loss to bee-keepers, should an agitation be inaugurated for its suppression?—FRUITER.

P. H. Elwood—Yes.

Adrian Getaz—Yes.

Mrs. L. Harrison—Yes.

R. C. Aikin—Yes, sir-ree.

Mrs. A. J. Barber—Yes, decidedly.

J. M. Hambaugh—Yes, by legislation.

C. Davenport—Most certainly, in my opinion.

J. A. Green—Yes, we should have laws that will protect the bees.

O. O. Poppleton—Yes, if that is the best way to suppress the practice.

C. H. Dibbern—Yes, because it is not the right time to spray, regardless of the bees.

E. France—If my neighbors sprayed during fruit blossom I would talk to them about it.

Chas. Dadant & Son—This has already been done enough to discourage the practice by progressive men.

Prof. A. J. Cook—Most assuredly. Especially as it would be unwise if there were no bees to be injured.

Dr. J. P. H. Brown—Correct knowledge of "the time" to spray should be agitated, and disseminated among fruit-growers.

G. M. Doolittle—York State has so "agitated" and "inaugurated" that we have a strong law against spraying while fruit-trees are in bloom.

Emerson T. Abbott—Yes, sir! As it is an injury to the fruit as well as to the fruit-grower should be taught this as quickly as possible.

Dr. C. C. Miller—Where have you been that you haven't known that the agitation was inaugurated long ago, and many States have laws for its suppression?

D. W. Heise—Certainly there should be agitation. Every State and territory in America should pass a law prohibiting the spraying of fruit-trees while in bloom.

Eugene Secor—Yes, but the sprayer must be convinced that it does no good to spray while trees are in bloom, for nine times out of ten he doesn't care a fig for your bees.

E. Whitecomb—Get in close touch with your horticulturist, and convince him that in spraying while in bloom he injures his prospect for fruit, and loses his time and material used. Trees cannot be sprayed



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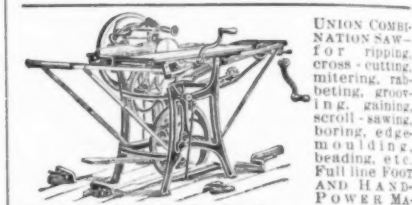
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with water when in bloom without injury. Note how the bloom partially closes to protect the pistil and stigma on approach of a storm. After blossoms have fallen, and before the fruit turns down, is the opportune time for spraying.

**J. A. Stone**—I think it would be useless, as horticulturists are finding out that it does no good to spray till fruit is out of bloom, and is a great waste of material.

**A. F. Brown**—Not living in such a location, and not knowing personally the exact extent of such loss to bee-keepers, I cannot say what would be just to every one concerned.

**R. L. Taylor**—There is no advantage to the fruit-grower in spraying trees, etc., in bloom, therefore there should be a law against doing so with any material poisonous to bees.

**W. G. Larrabee**—As the spraying of trees is very beneficial to the trees and fruit I do not think bee-keepers should try to suppress it, but always advise spraying before and after bloom.

**Dr. A. B. Mason**—No; the agitation has been "inaugurated," and it ought to attend "strictly to business" till every State has a law prohibiting spraying while trees and vines are in bloom.

**G. W. Demaree**—Bee-culture is a rural pursuit that is as much entitled to protection by the laws of the State as is any other rural interest. There is no use of

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"agitation." The law makers of the State will generally listen to facts, if intelligent bee-keepers will furnish the facts to them. Go at it in a business way.

J. E. Pond—As I do not believe that any good results come from spraying blossoms, I think in the interest of apiculture some means should be taken to prevent the practice of so doing, where it exists.

Rev. M. Mahin—There should certainly be an amount of agitation that will suppress spraying fruit-trees when in bloom. But I think it is pretty well suppressed. It is very generally understood that spraying when the trees are in bloom does little if any good.

S. T. Pettit—We have a law in Ontario, Canada, prohibiting the spraying of fruit-trees while in bloom. It is not a law covering Canada, as one writer has stated. Every State and Province, I think, should have such a law. But it should not require much agitation to secure one.

Mrs. J. M. Null—Rather a school of instruction as to when it should be done. The ignorance on this question is without parallel. What with the country flooded with oily-tongued spraying-machine agents, all intent on turning a penny, the extent of the evil to be apprehended is incalculable.

E. S. Lovesy—Yes, decidedly. All interested should thoroughly understand this matter, and not "go it blind," as many are now doing. Many have drenched their trees, not only destroying the bees but destroying the fruit also, by washing the pollen out of the blossoms, thus throwing their time and money away, as there are no moths or eggs present when the trees are in bloom. While the trees will blossom at a less temperature than 60°, the moth will not hatch at a less temperature than 60, and if they are hatched artificially they will not lay their eggs at a less temperature than 60 degrees. This can be proven by taking the larvae and hatching them in the hot-house in early spring. Farther south the difference may not be as long, but here in Utah the trees come into bloom the last week in April, but no hatch larvae are ever around before June 10 to 20, and as eggs hatch in a week, and any one can find them less than 48 hours later boring into the fruit, this proves that the eggs are not laid for five or six weeks after the trees were in bloom. Thus June is soon enough to commence spraying, but to obtain success the spraying must be kept up till about the first cold storm in September.

## GENERAL ITEMS

### A Good Report.

I have an increase of 21 colonies from 32 in the spring, making 53 now, and have taken 1,600 pounds of extracted honey, with about 100 pounds of comb honey. I used mostly queens for my increase, buying 14 and rearing the rest. There is plenty of white clover where I live.

I move my bees every fall to the Illinois bottoms. It is 10 miles. I will move them next week. I think we will have a good honey harvest down there this fall. I use ventilators when I move the bees to keep them cool. I move them on a spring-wagon, 10 colonies to a load. I put a frame over the top of the wagon-bed, and carry 10 without any trouble. I have moved them now for six falls, and never lost a colony.

JAMES GROVER.

Brown Co., Ill., Aug. 2.

### Bees with Crooked Combs.

Can we not find some substantial way to handle our bees so that we can get enough honey and money to pay the printer? There is nothing in it this year, surely. Not that the bees got no honey—they would



simply swarm out when they pleased, and are getting worse every year. I suspect that I have been breeding up this strain of bees!

I have made all my increase from colonies that would swarm out by saving all the queen-cells. I am going to stop this way of keeping bees, right now. I want to rear all my queens from some queen that does not want to swarm out—if I can breed it in. I surely can breed it out.

Here is my way of getting rid of a cross colony with crooked combs, or combs that cannot be lifted out of the hive: Set an empty hive on top of the colony, then go to some hive and get frames of brood and put into the empty hive. In 2 or 3 days the queen will be in the top part. Set the top one off on a bottom-board, and carry it off to another stand, then kill her, or clip, as you like. This will answer the question on page 535, concerning cross colonies. Then if you want to, let a young queen run into the old hive after 5 days. C. CRANK.

Oseola Co., Mich., Aug. 28.

### No Honey Because of Drouth.

We have had a hard time with the bees this year—no honey on account of the drouth in the spring; however, I think I will come out whole. I had 14 colonies to begin with, and now have 30, and a little over half have some surplus—about 600 sections, and about 24 brood frames, with an increase of 16 colonies. So much for a hard year. I think all will have a living, as they are gathering a little from cotton bloom. Ellis Co., Tex., Aug. 29. R. H. HARKEY.

### Bees Preparing for Winter.

Here in southern Kentucky the honey-flow did not commence until Aug. 10, and to day bees are storing honey nicely, but it is of very poor quality, both in taste and color. If the honey-flow lasts 10 or 15 days longer, good colonies will store enough to winter on, and give some surplus. But the bees seem very much inclined to store honey in the center brood comb as fast as the young bees leave their cells. The field-bees go right about filling the cells with honey and pollen, which seems as if they were preparing for winter.

H. B. LAMBERT.

Simpson Co., Ky., Aug. 26.

### Queen Fertilized Seven Weeks Old.

I have never seen it reported in the American Bee Journal that a virgin queen was caged for about seven weeks, and after her liberation was impregnated. Such happened in our apiary this summer. I will tell how it happened.

The first week in June a swarm issued from hive No. 7; it was hived, and out of the parent colony all queen-cells were carefully removed. This was repeated until all chances of rearing their own queen were lost, as I did not want any of that stock. Then I put a virgin queen in a cage, and placed her between the frames (this queen emerged from a cell which I had previously taken from some other colony) to be set at liberty in a day or two, but that day or two was past about seven weeks, as it had slipped my mind, that a queen was caged in that hive.

On July 30 I said to my brother, "I must look in that hive, for the colony seems to be getting weaker every day." When the cover was removed I beheld the seven weeks forgotten queen still alive; and before setting her free the hive was again overhauled, and no other queen could be found, neither brood nor eggs. Then I pulled the stopper out of the cage, and she walked in just as limber and elastic as the best of queens.

Then the question was, Will she be all right yet to leave the hive and meet a drone? The hive was closed, awaiting results.

On Aug. 1, my brother and I went to the hive to investigate. It was about 5 o'clock in the afternoon, and a queen was soon found, and with unmistakable signs that cop-



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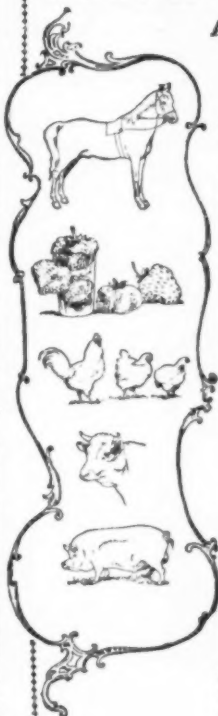
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A MOST WONDERFUL OPPORTUNITY

ulation must have taken place that very afternoon.

On Aug. 4 we lookt again, and found a good many eggs in two of the frames, and to-day the hive is full of brood and many young bees hatching.

The general opinion among bee-keepers is, that if a virgin queen does not meet a drone within 21 days, she is no good. I wonder what those bee-lights think of this case—a virgin queen caged for seven weeks, and still all right.

I never had a case like it, and never read of one in the American Bee Journal in my 17 years of bee-keeping.

BERNARD W. HAYCK.

Adams Co., Ill., Aug. 30.

### Why We Blush.

EDITOR YORK:—I have been a subscriber to the American Bee Journal for nearly a year. I will express my appreciation for your efforts to produce such a sprightly paper, deserving of the support of every one interested in bees. The many articles by veterans in apiculture are especially interesting and instructive to amateurs like myself.

Altho I am almost past the prime of life, and too old to learn many new tricks, I wish you all possible success with the green wood, *i. e.*, young generation, to simplify the orthography of the English language. Never mind ridicule—that is the fate of reformers in every branch of human thought and effort.

I want to shake the hand of Mr. Doolittle for the bold and manly stand he takes in his recent article on the price of honey. He is a man who looks below the surface. If the people of his district want to do themselves proud, they should send him where such men are badly needed—to Congress.

F. G. SMITH.

Sonoma Co., Calif.

### "The Nectar in Flower-Cups."

Regarding that cogitation on page 487, in regard to my position on the different qualities of nectar in the same flower-cup, I wish permission to remark that I wrote so briefly that I did not have space to say that lime and silica are sparingly soluble in water, the latter the more sparingly; that, as the subterranean waters flow along thru the veins and fissures, they contain certain properties, as CO<sub>2</sub> for lime, for example, which make the minerals more soluble, so that they are carried in greater quantities to the surface in solution; that the water there parts with these conditions, and loses its solvent power, when most of the particles of mineral change to being merely in suspension, and are deposited according to rapidity of flow of the water and rapidity of rate of loss of solvent conditions. But still I have not room to enlarge upon it.

And now I will confess to our good friend Cogitator, that I do not know that "two contiguous nectar-glands secrete nectar of exactly the same thinness." But I confidently believe that there is no material difference; and I don't believe that Cogitator knows that there is any difference. Moreover, if a ribbon-like film of nectar should dry down at one end, as he suggests, it would be the upper end of it that would dry first, being nearer the air; and, if yesterday's secretion should thicken before today's secretions are being poured out, it would show that bees were not overstocked, or the nectar would not have remained un-gathered; and, besides, from the established tendency of such things toward solution, what would hinder the thin nectar just poured out from dissolving and absorbing the other? or, what would hinder the morning dews from doing so? And why would this nectar dried down in the flower be any better as to quality than the same dried down in the hive?

I fancy this is rather a fanciful theory; and that is why I called attention to what seemed to me the weak points in the argument in its favor. It might be well for the next article in defense of it to specify how many and what species of flowers positively

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have nectaries that allow honey-bees to sip the upper part of the nectar but not the lower portion; and just which of these species do not give their distinctive flavor or aroma to the honey by means of a volatile oil that is more apt to rise to the top than to settle to the bottom. It might be well also to include the mention that boiling honey destroys its flavor, and to say why this is if not because the flavor is lighter and more volatile than the sweetening, and further to enter into the exact dimensions and depths of the drops of nectar in the various flowers. I write with only the kindest of feelings, tho I think that this theory is undoubtedly erroneous in every respect.

A. NORTON.

Monterey Co., Calif.

### Season Too Wet and Cold.

The season has been too wet and too cold at night for bees. Flowers have been plenty all summer. Alsike is in bloom and will be until frost; plenty of buckwheat, fire-weed, golden-rod, etc. Bees work hard when the weather is pleasant, but the nectar is too thin. This has been the best day for honey-gathering for some days.

I started last fall with 22 colonies of hybrids, rather dark; I lost one colony in the winter, and one in the spring. I use 10-frame chaff hives. The snow drifted over them, but I left them there all winter. I fed syrup to the bees in the spring and rye ground for pollen. I have increased to 40 colonies. I shall want to Italianize all of my bees as soon as I can.

ORLO GLEASON.

Newaygo Co., Mich., Aug. 16.

### A Regular Growl.

The fads for the modern bee-keeper are getting too numerous; and if one took up all the so-called improvements he might sell large quantities of honey and still have an empty purse. So many conveniences are about equal to putting two handles on a dipper—it is more work to operate them than they are worth; and changing shapes and sizes of sections so often is perfectly exasperating; then the separator must be toggled over and over, wide and narrow, short and long.

There is no better general-purpose hive than the old-fashioned Langstroth, with its opening side instead of a division-board, the extracting-super holding the same size frames as the brood-chamber, and 2 pound section supers.

The chaff hive may be very fine for wintering bees out-of-doors, but it is altogether too ponderous for a woman to handle. And that gable-roof cover has a way of hitching at the corners that is a vexation to the soul of at least one woman who is usually in a hurry and don't want to be bothered. Board blankets, too, are a nuisance unless a cloth lining is used with them; for my bees have a way of sticking them down so tight that a knife or some prying tool must be used to lift the cover, which usually comes up with a jerk, and then there is high tragedy for the next scene.

Much as the plain sections and filled-out combs are lauded, the sections that are large enough to allow for the propolis would please the average housewife best. It is just as well if "the gravy" does not make a vast spread till it is needed. "The gravy!" what a name for a conserve; but that's man-fashion.

MAY MAPLE.

Manistee Co., Mich.

Utah.—The Utah Bee-Keepers' Association will hold their semi-annual convention in the City and County Building, Salt Lake City, Oct. 5, at 10 o'clock a.m. A full program in the interest of the industry will be presented. All are invited. Some prominent bee-keepers are expected to be present, and one or more meetings may be held at the State Fair.

J. B. FAGG, Secretary.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association will be held at the Court House in Rockford, Ill., on Tuesday and Wednesday, Oct. 17 and 18, 1899. All are cordially invited.

B. KENNEDY, Sec.

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CHICAGO, Sept. 7.—Fancy white comb honey, 15c; No. 1, 13c@14c; light amber, 11c@12c; dark and amber, 9c@10c. Extracted, white, 7c@8c; amber, 6½c@7c; dark, 6c@6½c. Beeswax, 25c@26c.

Consignments of small lots of comb honey are becoming more frequent, and while there are some who will not buy at the prevailing price, yet a fair trade is being done; this also applies to extracted honey and beeswax.

R. A. BURNETT & CO.

KANSAS CITY, Aug. 10.—The receipts of honey are light, demand fair. We quote: Fancy white comb, 15c; No. 1, 14c; No. 1 amber, 12c@13c. Extracted, white, 6c@6½c; amber, 5½c@6c; dark, 5c@5½c. Beeswax, 22c@25c.

C. C. CLEMONS & CO.

NEW YORK, Aug. 22.—Demand good for new crop comb honey, excepting buckwheat. We quote as follows:

Fancy white, 14c@15c; No. 1 white, 12c@13c; fancy amber, 11c; No. 1 amber, 10c. Extracted firm at unchanged prices. Beeswax dull at 25c@26c.

HILDRETH & SEGELKEN.

SAN FRANCISCO, Aug. 25.—White comb, 11½c@12½c; amber, 8c@10c. Extracted, white, 7½c@7¾c; light amber, 6½c@7c. Beeswax, 26c@27c.

Market is firm at unchanged quotations, with demand fair and offerings light. The last Panama steamer took 312 cases extracted for New York. The ship Centesima sailed with 349 cases for Liverpool; another took 4,000 lbs. beeswax.

CLEVELAND, Aug. 18.—New honey scarce and in good demand. Fancy white, 15c; No. 1 white, 13c@14c; fancy amber, 12c; No. 1 amber, 10c@11c.

A. B. WILLIAMS & CO.

BOSTON, Sept. 8.—Fancy white comb, 1-pound sections, 16c; A No. 1, 14c@15c; No. 1, 12c@13½c; No. 2, 11c. Light amber extracted, 8c@8½c; amber, none to quote. Beeswax, 27c.

Practically no new comb honey has been received as yet, and stocks are steadily being reduced, so that there is really no honey on hand, with quite a little inquiries. We strongly advise shipments of comb honey to be made as early as possible.

BLAKE, SCOTT & LEE.

BUFFALO, Sept. 8.—Receipts continue very light of strictly fancy 1-pound comb, which sells very well at 12c@13c, occasionally 14c; dark from 8c@10c; low grades less. Few small lots can be placed fairly well right along now.

BATTERSON & CO.

OMAHA, Aug. 16.—Still very little doing and receipts so light that a market price has really not been established. Little lots of choice new comb are still going at 14c@15c, but a good many dealers will not touch it at these prices, and in order to place larger quantities at this time a considerably lower figure would have to be made. In the course of another month, when the weather is cooler and the taste for fruits more fully satisfied, the demand for honey will be more general and a more reliable market can be quoted. Extracted is slow sale at 7c@7½c.

PEYCKE BROS.

DETROIT, Aug. 19.—There has been no offerings of new honey and old is fairly well cleaned up. Fancy white we think would bring 14 cents, other grades proportionately cheaper. White extracted, 7c@8c; no dark to quote. Beeswax in good supply at 23c@24c.

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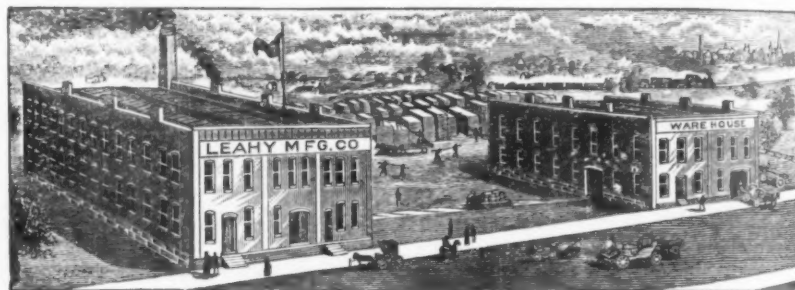
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